

Table 7. Effects of Vacuum Devices and Penile Rings

<b>Author Year; Country Score Research Design Total Sample Size</b>	<b>Methods</b>	<b>Results</b>
<p><a href="#">Moemen et al. 2008</a> Egypt Prospective controlled trial Level 2 N=60</p>	<p><b>Population:</b> 60 men with SCI and erectile dysfunction, at least 6 months post-injury, randomized into 3 groups of 20 (A, B, C) <b>Treatment:</b> Group A took sildenafil 50mg before sexual activity for 1 month; Group B were given intracorporal injection (ICI, 10 mg/ml prostaglandin E1 or 0.5 ml trimix) for 1 month and then took sildenafil for 1 month; Group C used vacuum constriction device (VCD) for 1 month and sildenafil for 1 month <b>Outcome Measures:</b> International Index of Erectile Function – erectile function domain (IIEF-EF); Global Efficacy Assessment Questionnaire (GAQ); Hormonal Profile</p>	<ol style="list-style-type: none"> <li>90% of people in all groups showed improvement of erection as measured by IIEF-EF after sildenafil. 90% showed improvement in Group B after ICI, and 70% in Group C after VCD.</li> <li>Improvement in erection reached 100% in all groups according to the GAQ, but ability to penetrate reached 90% after sildenafil, 90% after ICI, and 70% after VCD.</li> <li>There was a significant increase in testosterone in all groups after sildenafil treatment, mean increase of approximately 0.2 - 0.7 ng/ml.</li> <li>Participants in Group B reported that ICI resulted in more rigid erections than sildenafil, but 14 participants preferred sildenafil due to easier administration; no participants in Group C were satisfied with VCD and preferred either ICI or sildenafil.</li> </ol>
<p><a href="#">Denil et al. 1996</a> USA Post-test Level 4 N=20</p>	<p><b>Population:</b> 20 men with SCI; Age range 20-50 yrs: 13 complete, 7 incomplete. <b>Treatment:</b> Vacuum erection device (VED). <b>Outcome Measures:</b> Safety and efficacy of vacuum erection device, patient &amp; partner satisfaction.</p>	<ol style="list-style-type: none"> <li>At 3 months, 93% of the men and 83% of the women reported rigidity sufficient for vaginal penetration.</li> <li>At 6 months, 14 couples were regularly using the device at least 1/wk.</li> <li>At 6 months, 41% of the men and 45% of the women were satisfied with the device.</li> <li>60% of men and 42% of women indicated an improvement of the sexual relationship.</li> </ol>
<p><a href="#">Chancellor et al. 1994</a> USA Post-test Level 4 N=18</p>	<p><b>Population:</b> 18 men; Age: range 19-65 yrs; Level of injury: C7-L3, 15 thoracic. <b>Treatment:</b> Minoxidil spray, papaverine injection, or vacuum constriction device (VCD).</p>	<ol style="list-style-type: none"> <li>Vacuum constriction devices changed rigidity a median range of 57% range (30-80%).</li> <li>No difference between vacuum constriction device and papaverine.</li> <li>The patient's subjective rating scale was significantly lower for minoxidil</li> </ol>

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	<b>Outcome Measures:</b> Erectile response.	than vacuum constriction device or papaverine. 4. Physician subjective ratings (from 0 to 10) were significantly lower for minoxidil than other treatments on erectile response.
<a href="#">Heller et al. 1992</a> Israel Pre-post Level 4 N=30	<b>Population:</b> 30 men with neurological impairment, 10 paraplegia, 2 tetraplegia, 7 paraparesis, 7 hemiplegia, 2 multiple sclerosis, 2 autonomic neuropathy. <b>Treatment:</b> Vacuum tumescence constriction therapy (VTCT). <b>Outcome Measures:</b> Device usage, frequency of coitus.	1. 17 (57%) of 30 patients bought vacuum tumescence constriction therapy devices. 2. 83% very satisfied at follow-up. 3. 53% using the device at follow-up.
<a href="#">Zasler &amp; Katz 1989</a> USA Post-test Level 4 N=20	<b>Population:</b> 20 men with SCI; Age: range 21-65 yrs; Level of injury: C4-L2. <b>Treatment:</b> Each patient was custom fitted for the synergist erection system. <b>Outcome Measures:</b> Efficacy of the synergist erection system.	1. Snap-gauge (a device used to measure circumferential penile expansion and rigidity) assessment correlated significantly with subjective reports of erectile capability. 2. 15 men and 14 women rated the quality of coitus as very good to excellent compared to previous best since injury.